Application No. 10/671,851 121850-1

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: M. R. Jackson et al. : Group Art Unit: 1742

Application No.: 10/671,851 : Examiner: Jessee R. Roe

Filed: September 26, 2003 : Response to: Mail Date 20070405

For: HIGH-TEMPERATURE COMPOSITE ARTICLES AND ASSOCIATED METHODS OF MANUFACTURE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRE-APPEAL BRIEF REQUEST FOR REVIEW

In accordance with the Official Gazette Notice of July 12, 2005, Appellant respectfully submits this Pre-Appeal Brief Request for Review. This Request is being filed concurrently with a Notice of Appeal.

In the Final Office Action mailed on November 28, 2006, claims 1, 3, 5-21, 23, 25 and 27-43 had been rejected under 35 U.S.C. 103(a). The rejection followed Applicant's Response to the first Office Action of June 15, 2006.

Claim Rejections – 35 U.S.C. 103

In regard to the first rejection of the Final Action (claims 1, 3, 5-9, 12-17, 23, 25 and 27-39), Applicant has reviewed the Xu reference closely (U.S. Patent 6,692,586). Moreover, the present invention has been discussed in detail in the first Response (September 15, 2006, page 10, last paragraph, to page 12, top).

In brief, the invention relates to niobium-based refractory metal-intermetallic composites (RMIC's), such as the niobium-silicide alloys, which provide an unusual combination of properties.

Xu was also discussed in detail, in that first Response (see page 12, first full paragraph, to page 13, first paragraph). In brief, Xu is directed to high-temperature braze materials. While the compositions of Xu may contain some elements which happen to be similar to some elements of the present invention, the overall braze material has nothing to do with the present invention. Xu fails to disclose or suggest the mechanical deformation/reaction steps for the refractory metal/silicide precursor, as in the present claims. Moreover, the Xu patent fails to suggest the higher-temperature reaction step recited in claim 1, wherein the metal-intermetallic phases are formed. Applicant has explained Xu's description, which involves steps from two separate processes: making a braze; and then using the braze material to connect various components, or to repair them. That description would never suggest the invention of Applicant's claim 1, i.e., the preparation of RMIC materials.

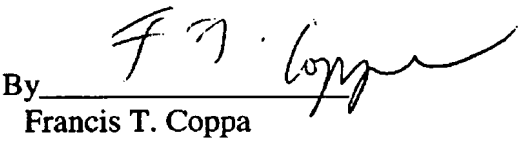
Moreover, the second reference, Svedberg (U.S. Patent 4, 836,849) refers to protective coatings applied over the refractory material (see Final Office Action, last paragraph on page 7). However, the mere mention of these types of "overlayers" does not supply the other missing features of the claimed invention, i.e., the unique preparation steps for the underlying RMIC article.

The third reference, Jackson (U.S. Patent 6,428,910), describes specific types of RMIC composites, based on a combination of elements, including Nb, Si, Ta, Ti, and Hf, as well as other elements . While this patent certainly describes niobium silicide composites, the reference never suggests the processing steps of the present invention. Moreover, while Jackson mentions the concept of "grading" (and Applicant has graded embodiments, as in claim 40), the patent only describes a graded surface layer (col. 3, lines 25-29; col. 4, lines 33-41; claim 29). The reference never describes the preparation of a graded composite by a sequence of specific deformation/reaction steps, as in the present invention.

Applicant submits that a combination of any of these three references does not suggest the present invention. Therefore, Applicant respectfully requests

that the Panel of Examiners withdraws the outstanding rejections and allows the pending claims.

Respectfully submitted,

By 

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